LOSITSKIY, V.V.; MAKAREVICH, V.F.

Relationship between the size of the pieces of broken rock and the productivity of an excavator in an opne-pit mine. Trudy Alt. GMNII AN Kazakh. SSR 13:121-126 '62. (MIRA 16:3)
(Excavating machinery)

KRANTSFEL'D, Ya.L., inzh.; LOSIYEVSKAYA, I.K., inzh.; RUSANOV, M.Ye., inzh.

Tolerated flexures in carrying structures with suspension conveying systems. Prom. stroi. 43 no.9:44-45 '65. (MIRA 18:9)

LOSIYEVSKAYA, I.K., inzh.; GRANTSFEL'D, Ya.L., inzh.

Greater precision in the calculation of steel elements for the frames of single-story industrial buildings. Prom. stroi. 42 no. 10:34-35 O '64. (MIRA 17:11)

KUZ'MIN, R.N.; ZHURAVLEV, N.N.; LOSIYEVSKAYA, S.A.

Atomic structure of $RuSb_2$ and $OsSb_2$. Kristallografiia 5 no.2:218-223 Mr-Ap '60. (MIRA 13:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Rubidium antimonide) (Osmium antimonide)

LOSIYEVSKAYA, S.A.

Methods for the electronographic study of glauconites. Lit. i pol. iskop. no.6:140-142 N-D '64. (MIRA 18:3)

1. Geologicheskiy institut AN SSSR.

LOSIYEVSKIY, A. I.

"Laboratory Study of the Process of Sandbank Formation," M., 1934.

LOSIEVSKIY, A.I.

LOSIEVSKII, A.I. Fighting sandbanks by using drift directing installations. Moskva, Rechizdat, 1940. (Mic 53-305)
Collation of the original: 47 p.

Microfilm of the AC-100

LOSIYEVSKIY, A. I.

LOSIYEVSKIY, A. I. "The latest methods for rectifying difficult parts of rivers," In the symposium: Materialy tekhn. soveshchaniy po putevym rabotam (M-vo rech. flota SSSR), Moscow, 1949, p. 71-75

SO: U-5240, 17Dec53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

LOSIYEVSKIY, A. I.

Ruslovye laboratornye issledovaniia [Laboratory research on river channels] Moskva, Rechizdat, 1953. 56 p.

SO: Monthly List of Russian Accessions, Vol. 6 No 10 January 1954

DOMANEVSKIY, N.A.;LOSIYEVSKIY, A.I.;MAKKAVEYEV, N.I.;MATLIN, G.M.;RZHANITSYN, N.A.;AZROVA, A.G., redaktor.;BEGICHEVA, M.N., tekhnicheskiy redaktor.

[Channel processes and improvement of the navigable course in open-channel rivers.]Ruslovye protsessy i putevye raboty. Moskva, Izd-vo "Rechnoi transport, "1956. 458 p. (Moscow. Tsentral'nyi nauchno-issledovatel'skii institut ekonomiki i ekspluatatsii vodnogo transporta. Trudy, no.8). (MLRA 9:11)
(Rivers--Regulation) (Dredging)

LOSIYEVSKIY, A.I.; MIKHAYLIN, Ye.V.

Arrangement of the navigable structures in the Saratov Hydro Project. Rech.transp. 18 no.3:37-39 Mr.'59. (MIRA 12:4)
(Saratov Hydroelectric Power Station--Navigation)

AUTHOR: Losiyevskiy, K.D. SOV/68-59-1-9/26

TITLE: Utilisation of Waste Water from Sulphur Purification Plants of Coking Works (Utilizatsiya sbrosnykh vod tsekhov seroochistki koksokhimicheskikh zavodov)

PERIODICAL: Koks i Khimiya, 1959, Nr 1, pp 35 - 37 (USSR)

ABSTRACT: Waste water from sulphur purification plants (arsenical method) containing up to 35% of salts are usually disposed directly into rivers. In order to recover these salts (which can be utilised by the glass industry) a method of evaporation is proposed. Pilot plant experiments on the evaporation of the effluents from the Zaporozhskiy koksokhimicheskiy zavod (Zaporozh'ye Coking Works) (containing g/litre: sodium sulphate and hyposulphate 216.6, sodium thiocyanide 76.5, arsenic 0.2) were carried out by the Ukrainian Scientific Research Institute for Chemical Machine-building. A drum evaporator was used for the experiments (Figure 1). The cast iron drum 300 mm diameter and 400 mm long was heated by steam of 5 atm pressure. The experimental data are shown in the table. The throughput obtained 43 kg/m^2/h on the effluent and 13.7 kg/m^2/h on finished product. Steam

Card1/2

Utilisation of Waste Water from Sulphur Purification Plants of Coking Works

consumption per 1 kg of starting material 2.05 kg. Salt obtained (Figure 2) can be easily powdered but is somewhat hygroscopic.
There are 2 figures and 1 table

ASSOCIATION: Ukrniikhimmash

LOSIYEVSKIY, K.D., kand.tekhn.nauk; CHIRVA, V.I., inzh.

Evaporator for concentrated solutions of sodium hydroxide. Khim. mash. no.4:10-12 Jl-Ag '61. (MIRA 14:8)
(Evaporating appliances) (Sodium hydroxide)

LOSIYEVSKIY, K.D. [Losiievs'kyi, K.D.]

Heating chambers for acid aggressive media with pipes made from ATM-1 graphite plastics. Khim.prom. [Ukr.] no.2:39-40 Ap-Je '65. (MIRA 18:6)

ACC NR: AP7001006 SOURCE CODE: PO/0046/66/011/001/0067/0069

AUTHOR: Janczyszyn, J.; Kwiecinski, S.; Loska, L.

ORG: Institute of Nuclear Engineering, AGH, Krakow (Instytut techniki jadrowej AGH)

TITLE: Choice of the optimum shape of a neutron howitzer for neutron absorption

SOURCE: Nukleonika, v. 11, no. 1, 1966, 67-69

TOPIC TAGS: neutron absorption, fast neutron, thermal neutron, collimator

ABSTRACT: The apparatus consists of a neutron source (Ra-Be) surrounded by a paraffin moderator, with cadmium shielding, a Pb plug, and a shaped paraffin collimator that directs the slow-neutron flux to a neutron-absorption sample. The Pb plug reduces the gammas and fast neutrons which travel down the collimator. Behind the sample is located a scintillation counter with a scintillator that is sensitive to thermal neutrons. The paraffin collimator is replacable so that the thermal neutron flux distribution across the neutron-absorption sample can be preselected. The angular distribution of neutrons at the center of the absorption-sample location is given for several collimator geometries. It was measured with a goniometer-type of neutron detection device. The overall geometric factors were selected to maximize the usable thermal neutron flux at the location of the absorption sample. Orig. art. has: 3 figures. [NA]

SUB CODE: 20 / SUBM DATE: 15Nov65

Card 1/1 0924 0004

LOSKA, Peter

The 18 watt HI-FI sound amplifier. Radiotechnika 12 no.5:130-131 My '62.

LOSKA, Peter

Supplying Yagi antennas. Radiotechnika 10 no.2:57-60 F '60.

LOSKA, Peter

Sound amplifier with negative output impedance; a supplement to the article "18 W Hi-Fi sound amplifier", published in "Radiotechnika," no.5, 1962. Radiotechnika 12 no.8:265 '62.

CZECHOSLOVAKIA
28 Jun 66

CABAL, Stefan, member, Slovak Trade Union Council
LOSKA, Vojtech, member, Slovak Trade Union Council
ROZENBERGER, Pavel, candidate member, Slovak Trade Union Council

The above trade union functionaries asked to be relieved from their functions in the Slovak Trade Union Council, Bratislava, 28 June.

Praca, Bratislava, 29 Jun 66, p 1.

(3)

Loskat, F.

DMITROVICH, A., kand.tekhn.nauk.; LOSKAT, F., inzh. BASHLAKOV, V., inzh.

Efficient method for thermal blocking of kilns and dryers.
Stroi. mat. 4 no.1:21-23 Ja '58. (MIRA 11:2)
(Kilns, Rotary) (Drying apparatus)

LOSKAT, F.V., inzh.; NEUSYKHIN, I.Ya., kand.tekhn.nauk

Igniting hearths for sintering machines. Stroi. mat. 8 no.4: 28-29 Ap '62. (MIRA 15:8)
(Sintering)

KUBETSKIY, A.A.; LOS'KAYA, Ye.I.

Metastatic heart cancer terminating by spontaneous rupture of the heart muscle. Vrach.delo no.11:1199-1201 N '59. (MIRA 13:4)

1. Pervoye terapevticheskoye otdeleniye Drogobychskoy rayonnoy bol'nitsy.

(HEART--CANCER)

25181
S/056/61/040/006/002/031
B102/B214

3.2410

AUTHORS: Babetski, S. Ya., Buya, Z. A., Grigorov, N. L., Loskevich, Ye. S., Massal'ski, Ye. I., Oles', A. A., Shestoperov, V. Ya.

TITLE: Investigation of large ionization bursts caused by cosmic ray particles at sea level

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 6, 1961, 1551 - 1561

TEXT: The authors investigated particle interactions for energies of 10^{12}-10^{13}ev using photoemulsions. The reports on the measurements are presented in this paper. The experimental arrangement consisted of 128 ionization chambers (total area 10 m^2), which together with a combined lead graphite filter formed a so-called ionization calorimeter which also made the determination of shower coordinates possible. This apparatus was set up on Mount Aragats at a height of 3200 m (a simpler variety of this device was used in Moscow earlier, 50 m above sea level). Fig. 1 shows the arrangement of the layers and cylindrical ionization chambers (I-IV) above and below the graphite layer (density 60 g/cm^2). The apparatus was placed in a special

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Investigation of ...

building and covered on the top by light materials only (2 g/cm^2). All the amplifiers were calibrated by radiotechnical means twice a day. The amplification factor was found in general not to vary more than 2 - 3 % in the course of a day. During the first half period of the measurements in series I of chambers the frequency of the bursts of a size of J_1 = 1200 relativistic particles was $(1.27 \pm 0.03) \cdot 10^{-1}/hr \cdot m^2$; in the second half period it was $(1.25 \pm 0.03) \cdot 10^{-1}/hr \cdot m^2$. Measurements carried out for 2640 hours with the chambers placed below the graphite layer showed that the electron and photon showers recorded were produced inside the apparatus. The intensity ratio for the two series for a shower with particles numbering $(1.2 - 2.4) \cdot 10^3$ was $\overline{(J_1/J_2)} = 1.5 \pm 0.1$; for showers with number of particles $>1.2 \cdot 10^4$ this ratio was 3.4 ± 0.8. These showers could have been produced in the apparatus by the interaction of the high energy particles of nuclear kind in the graphite, or by the electromagnetic interaction of high energy muons in the filter. The spectrum of the ionization bursts was determined from the total ionization recorded in all the chambers (for the bursts considered) separately for the first and the second series. If the observed distribu-

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Investigation of ...

tion is represented in the form of an exponential law $N(\geq J) = AJ^{-\gamma}$, for the first series is 1.71 ± 0.04 and for the second 2.00 ± 0.04. These results agree well with those of other authors. Part of the showers were distinguished by a strong nonmonotonous ionization distribution in the series I and II (ionization in the individual chambers, very weak or no ionization in the neighboring chambers). These were designated as "structural" bursts. Numerical data on these are given in Table 1. The average distance l between the chambers, recording maximum ionization, were also determined for this kind of bursts. The results are given in Table 2. The spectrum of these bursts may be represented by $N(>J) = BJ^{-\gamma}$, where $\gamma = 1.96 \pm 0.03$. The results are discussed in the following, and an attempt has been made to determine the course of the bursts in altitude by theoretical considerations. This is done under special assumptions about the properties of the participating pions and the spectrum of the primary particles. The nature of large ionization bursts is also discussed. The authors thank Diploma Student V. Trush for collaboration. Ye. A. Murzina, S. I. Nikol'skiy, and V. I. Yakovlev are mentioned. There are 4 figures, 2 tabels and 12 references: 11 Soviet-bloc and 1 non-Soviet-bloc.

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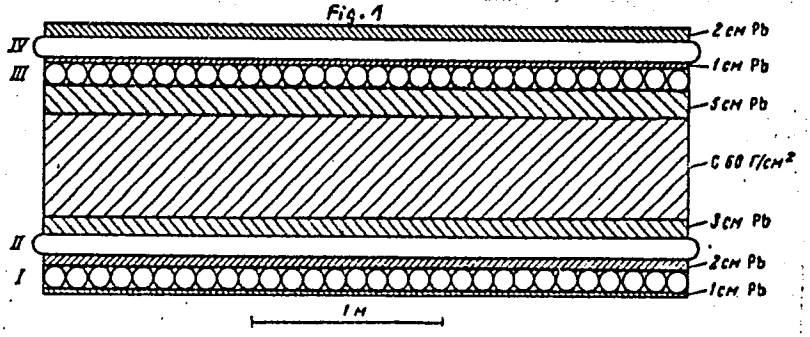
25181
S/056/61/040/006/002/031
B102/B214

Investigation of ...

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: December 20, 1960

Fig. 1



Card 4/6

26407
S/056/61/041/001/002/021
B102/B212

3,2410 also 2412

AUTHORS: Babetski, Ya. S., Buya, Z. A., Grigorov, N. L., Loskevich, Ye. S., Massal'skiy, Ye. I., Oles', A. A., Shestoperov, V. Ya., Fisher, S.

TITLE: Nuclear-active particles in atmospheric showers

PERIODICAL: Zhurnal eksperimental'noy i tecreticheskoy fiziki, v. 41, no. 1 (7), 1961, 13 - 21

TEXT: The aim of the present paper has been to contribute to the clarification of the characteristics of elementary processes underlying the formation of an extensive air shower and also of the role played by the nuclear-active component in shower formation. A number of shower parameters have been determined (the energy E_{e-ph} of the electron-photon component, the energy transferred by π^0 mesons, and the ionizations I in the chamber rows) by employing an arrangement which has been described earlier by the authors (Ref. 4: ZhETF, 40, 1551, 1961). It consists of 128 ionization chambers (active area, 10 m^2). [Abstracter's note: In order to follow the

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Nuclear-active particles in...

statements, a knowledge of Ref. 4 is required.] The measurements were made at sea level for both extensive and "young" atmospheric showers. Of all extensive atmospheric showers recorded, those with $J_{3,4} \geq 1.2 \cdot 10^4$ relativistic particles (i. e., $E_{e\text{-}ph} \gtrsim 2 \cdot 10^{12}$ ev) have been selected. 284 such showers had been found after 1842 hours of measuring. (The ionization chambers were arranged in four rows; $E_{\pi^0}/E_{e\text{-}ph} = J_{1,2}/J_{3,4}$ could be set in good approximation). A determination of the position of the axes of these extensive atmospheric showers showed that in about half of all cases the shower axis hit the instrument and in all other cases the axis was found nearby. It can thus be assumed that the mean value $E_{\pi^0}/E_{e\text{-}ph}$ measured refers to the central region of the shower. The selected showers with $J_{3,4} \geq 1.2 \cdot 10^4$ had a number of particles amounting to $\gtrsim 10^5$, and $\overline{(J_{1,2}/J_{3,4}}$ $= 0.130 \pm 0.047$ was obtained for them. For showers whose axes did hit the measuring arrangement this ratio was equal to 0.128 ± 0.036. Assuming that the ionization by nuclear-active particles was not a function of the location of the chamber in the arrangement, then it follows that the

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electron-photon component in row I increases the ionization by 30±7.5%. From this it follows that $(E_{\pi^0}/E_{e\text{-}ph}) = 0.091 \pm 0.031$; if the angular distribution in an extensive atmospheric shower is taken into account, one obtains 0.097 ± 0.036. Table 2 shows the ionization ratios for various shower groups. Special investigations which have been made for "young" atmospheric showers (1900 hours, 52 "young" atmospheric showers with $J_{3,4} \geqslant 1.2 \cdot 10^4$ relativistic particles) yielded the following results: The intensity of these showers "young" atmospheric showers was equal to $0.95 \pm 0.13) \cdot 10^{-10}$ cm^{-2} sec^{-1}, and the energy of the electron-photon component was not less than 2.10^{12} ev. The ionization in the third chamber row was always 1.5 - 2 times higher than that in the fourth row. The intensity of individual showers ($J_2 \geqq 1.2 \cdot 10^4$) measured in the second row was equal to 2.10^{-11} cm^{-2} sec^{-1}. The J_3 or $E_{e\text{-}ph}$ distribution of the "young" showers can be described by $N(\geqq J_3) = AJ_3^{-\gamma}$, where $\gamma = 1.5 \pm 0.4$. Some cases have been found with $E_{e\text{-}ph} \geqq 10^{13}$ ev. These "young" showers

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Nuclear-active particles in...

proved to be starts of extensive atmospheric showers with $N \sim 10^4$ at most. For these 52 "young" atmospheric showers a value of $(J_{1,2}/J_3) = 0.11 \pm 0.03$ has been found, i. e., it was nearly equal to that of extensive atmospheric with $J_3 \geq 1.2 \cdot 10^4$. An estimation of the ratio of the energy of nuclear-active particles to the energy of the electron-photon component furnishes a value that is 2.5 - 2 times smaller than that found earlier (by assuming an inelasticity coefficient K of 0.3; cf. ZhETF, 36, 751, 1959). Therefore, it has to be assumed that $K \simeq 0.75$ - 0.6. Furthermore, it has been found that near the axes of extensive atmospheric showers the energy of nuclear-active particles is less than 50 % of the energy of the electron-component ($E_{n.a.}/E_{e-ph} = 0.40 \pm 0.14$), and that in about 30 % of all "young" atmospheric showers the nuclear-active component is practically absent. There are 5 figures, 2 tables, and 6 Soviet-bloc references.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

Card 4/5

BABETSKI, S.Ya.; BUYA, Z.A.; GRIGOROV, N.L.; LOSKEVICH, Ye.S.; MASSAL'SKI, Ye.I.; OLES', A.A.; SHESTOPEROV, V.Ya.

Studying large ionization bursts caused by cosmic-ray particles at se level. Zhur. eksp. i teor. fiz. 40 no.6:1551-1561 Je '61. (MIRA 14:8)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.

(Ionization chambers)
(Cosmic rays)

BABETSKI, Ya.S.; BUYA, Z.A.; GRIGOROV, N.L.; LOSKEVICH, Ye.S.; MASSAL'SKI, Ye.I.; OLES', A.A.; SHESTOPEROV, V.Ya.; FISHER, S.

Nuclear-active particles in atmospheric showers. Zhur.eksp.i teor. fiz. 41 no.1:13-21 Jl '61. (MIRA 14:7)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.
(Particles (Nuclear physics)) (Cosmic rays)

LOSKEVICH, YE. S.

3.2410 (2205, 1705, 2805)

S/048/62/026/005/002/022
B102/B104

AUTHORS: Babayan, Kh. P., Babetski, Ya. S., Boyadzhyan, N. G., Buya, Z. A., Grigorov, N. L., Loskevich, Ye. S., Mamidzhanyan, E. A., Massal'skiy, Ye. I., Oles', A. A., Tret'yakova, Ch. A., and Shestoperov, V. Ya.

TITLE: Investigation of the interaction of high-energy particles with atomic nuclei on mountains

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 5, 1962, 558 - 571

TEXT: Ionization bursts caused by the electron-photon component of a shower of cosmic-ray particles were studied with an array of ionization chambers (Fig. 1) at the mountain station (3200 m) of the Akademiya nauk Armyanskoy SSR (Academy of Sciences Armyanskaya SSR). The array consisted of six rows of ionization chambers separated by layers of lead and graphite, and covered an area of 10 m^2. Owing to this large area, heavy bursts with a total energy of locally generated π^0 mesons amounting to $\sim 10^{13}$ ev could be photographed. The data obtained were analyzed for

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ionization bursts in the filter of the arrangement, for the altitude dependence of the burst frequency, and for the burst spectrum and its dependence on the size of the arrangement; the mechanism of local π^0 generation by single nuclear-active particles was investigated. The bursts observed were grouped according to their intensity I, i.e., according to the number of relativistic particles involved; for each group, the numbers of ionization and "structuralized" bursts were determined for rows I-IV. The spectrum of ionization bursts can be described by $N(>I) = AI^{-\gamma}$ for all chambers. The index of the integral spectrum for $2 \cdot 10^3 \leq I \leq 2 \cdot 10^5$ equals 1.37 ± 0.02. With an area of ~ 0.6 m^2 it was found that $\sim$20% of the bursts were "structuralized" for $1 \cdot 10^3 \leq I \leq 5 \cdot 10^3$. At $I > 1 \cdot 10^4$ and 10 m^2 50% of the bursts (at sea level) and 75% (on the mountains) have a structure. An analysis of the course of the bursts with the altitude has shown that: (1) the integral spectrum of muon-induced bursts with $3 \cdot 10^3$ - $3 \cdot 10^4$ particles has an exponent of $\gamma = 2.22 \pm 0.14$; (2) for a burst of equal intensity, induced by a single nuclear-active particle, $\gamma = 1.98 \pm 0.09$; (3) at 3200 m, the muon contribution to single heavy bursts is small (15% of all bursts with $\sim 10^3$ particles, and $\sim$4% of those with $\sim 2 \cdot 10^4$ particles;

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Investigation of the...

(4) at sea level, the muon contribution is ~70% (~10^3 particles) and ~50% (~$2 \cdot 10^4$ particles). The burst spectrum was found to depend greatly on the area of the measuring arrangement. With $2 \cdot 10^3$ - $2 \cdot 10^5$ particles, γ goes over from 1.37 ± 0.02 for $(330\ cm)^2$ to 1.99 ± 0.05 for $10 \cdot 330\ cm^2$. The spectrum of bursts with a π^0 energy transfer of $3 \cdot 10^{11}$ - 10^{13} ev agrees with that of nuclear-active particles, and exhibits no "breaks". When particles with $E > 10^{12}$ ev interact with light nuclei in about 10% of the events, the interaction is completely inelastic, and the π^0 energy transfer amounts to 60 - 80% of the primary-particle energy. Such interactions obviously play a significant role in the formation of extensive air showers with at least 10^4 - 10^5 particles. There are 8 figures and 7 tables.

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BABAYAN, Kh.P.; BABETSKI, Ya.S.; BOYADZHYAN, N.G.; BUYA, Z.A.; GRIGOROV, N.L.; LOSKEVICH, Ye.S.; MAMIDZHANYAN, E.A.; MASSAL'SKIY, Ye.I.; OLES', A.A.; TRET'YAKOVA, Ch.A.; SHESTOPEROV, V.Ya.

Study of interactions of high energy particles with atomic nuclei at mountain altitudes. Izv.AN SSSR.Ser.fiz. 26 no.5: 558-571 Ap '62. (MIRA 15:5)
(Cosmic rays) (Nuclear reactions)

LOSKIEWICZ, J.

P/046/62/007/002/001/003
D256/D302

9.6150 (also 1112)

AUTHORS: Grigorov, N.L., Tretyakova, Ch.A., Sheetoperov, V.J., Babyan, Kh.P., Bayadzhyan, N.G., Buja, Z., Łoskiewicz, J., Massalski, J., and Oleś, A.

TITLE: Integral spectrum of ionization pulses caused by nuclear active particles of cosmic radiation at mountain altitudes

PERIODICAL: Nukleonika, v. 7, no. 2, 1962, 61 - 73

TEXT: The investigation was conducted in order to obtain information concerning: 1) The pulse spectrum and its dependence upon the dimensions of the apparatus, 2) the altitude dependence of the frequency of the registered pulses, 3) the mechanism of local generation of π^0 mesons by nuclear active particles. The apparatus covered an area of 10 m^2 and it consisted of 6 horizontal trays of 33 ionization chambers each, the trays being separated by graphite and lead absorbers, arranged to enable detection of electromagnetic cascades created by the decay products of π^0 mesons and evaluation

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Integral spectrum of ionization ...

of the energy transferred in the interactions up to 2 x 10^{13} ev. The pulses and pulse heights were recorded photographically from screens of 6 cathode-ray oscilloscopes with waiting spot. Using mechanical selectors it was possible to register subsequently individual pulses from all the ionization chambers, each of them being connected to its own amplifier. The experiments were carried out at two altitudes: 200 m (Moscow) and 3200 m above the sea level (the Mountain Station of the Armenian Academy of Sciences at Mount Aragac). Owing to the independent registration in each ionization chamber it was possible to divide the registered pulses into two groups: 1) Single pulses, i.e. events in which the pulse in each tray was registered by a small number of ionization chambers; 2) Structural' pulses defined as events occuring at least in one of the trays 1 to 4, in such a way that the groups of ionization chambers showing pulses were interspaced with one or more chambers without any ionization. The first group of pulses was attributed to nuclear active particles as well as μ mesons, and the second one could be produced only by groups of nuclear active particles falling simultaneously on the apparatus, as it was borne out from the

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Integral spectrum of ionization ...

investigation of the influence of the dimensions of the apparatus used upon the ionization spectra. The dependence of the percentage of the structural pulses upon the registered pulse height was examined, showing that the percentage of the structural pulses is a monotonic function increasing with the increase of the total pulse height registered i.e. with increasing the total energy. In order to assess the role of μ mesons, the altitude dependence was investigated of generating pulses of different nature. The integral spectra were found to be exponential: $N = AI^{-\gamma}$ in the region of pulse heights from 10^3 to 10^5 particles. The following conclusions were derived from the analysis of the experimental results: 1) The spectra induced by nuclear active particles depend essentially on the dimensions of the apparatus and on the pulse heights. The exponent γ of the integral spectrum for pulse heights (measured in numbers of particles) ranging from 2×10^3 to 2×10^5 particles changes from $\gamma = 1.41$ to $\gamma = 2.00$ for the area of the apparatus changing from 330×330 cm^2 to 10×330 cm^2 respectively. 2) At mountain altitudes the exponent γ of the integral spectrum for single nuclear active particles was determined to be $\gamma = 2.01 \pm 0.08$ for $3 \times$

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Integral spectrum of ionization ...

$10^3 \leq I < 3 \times 10^4$, and for all the nuclear active particles including the structural pulses $\gamma = 1.62 \pm 0.04$. 3) The integral spectrum of the large pulses by u mesons is also of an exponential form with $\gamma = 2.22 \pm 0.14$. 4) At the sea level the contribution of the μ mesons constitutes approx. 70 % of all single pulses with a height $\geq 2 \times 10^3$ particles and 50 % for heights $\geq 2 \times 10^4$ particles. There are 5 figures, 4 tables and 4 Soviet-bloc references.

ASSOCIATION: Institute of Nuclear Physics, University of Moscow; (N.L. Grigorov, Ch.A. Tretyakova, and V.J. Shestoperov); Institute of Nuclear Physics, Armenian Academy of Sciences, Yerevan; (Kh.P. Babayan, and N.G. Bayadzhyan); Institute of Nuclear Research, Polish Academy of Sciences, Cracow; Academy of Mining and Metallurgy, Cracow, II Department of Physics (Z. Buja, J. Łoskiewicz, J. Massalski, and A. Oleś)

SUBMITTED: January, 1962

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41047

s/058/62/000/008/023/134
A061/A101

3,2410 (also 2805)

AUTHORS: Łoskiewicz, Jerzy, Massalski, Jerzy, Nizioł, Bronisław, Oleś, Andrzej

TITLE: Energy spectrum of the nuclear active component of cosmic radiation at 200 and 3,200 m above sea level

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 57 - 58, abstract 8B413 (Rept. Inst. badań jądrow. PAN, 1961, no. 278/VI, 22 pp., illust., English; summaries in Polish and Russian)

TEXT: The energy spectrum of the nuclear active component of high-energy cosmic rays was measured on Mount Aragats (3,200 m above sea level) and in Moscow (200 m above sea level). The apparatus consisted of ionization chamber units placed between variously thick lead and graphite absorbers. The integrated energy spectra of the nuclear active particles recorded at the two altitudes have the form of $E^{-\gamma}$ in the $10^{12} \div 5 \cdot 10^{13}$ ev range, and at energies higher than $5 \cdot 10^{13}$ ev the spectral exponents have the tendency to increase. The exponents of power-law spectra read $\gamma = 1.58 \pm 0.09$ for the mountain altitude and $\gamma = 1.6 \pm 0.2$ for the sea level, while the exponent of the primary energy spectrum in the $10^{12} - 10^{15}$ ev range reads $\gamma \approx$

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S/058/62/000/008/023/134
A061/A101

Energy spectrum of the nuclear active component of...

1.6. Such a constancy of the spectral exponent indicates that the total inelasticity factor of nuclear collisions does not depend on the energy.

[Abstracter's note: Complete translation]

Card 2/2

CZYŻEWSKI, Oleg; LOSKIEWICZ, Jerzy

π^{o}--meson production in 8.4 GeV/C π^{-} --xenon nucleus collision. Nukleonika 7 no.7/8:435-443 '62.

1. Polish Academy of Sciences, Institute of Nuclear Research, Krakow.

GRIGOROV, N.L.; TRETYAKOVA, C.A.; SHESTOPIEROV, V.J.; BABAYAN, C.P.; BAYADSYAN, N.G.; BABECKI, J.; LOSKIEWICZ, J.; MASSALSKI, J.; OLES, A.

Investigations of energy particles interactions with atomic nuclei at the mountain altitudes. Nukleonika 7 no.12: 759-767 '62.

1. Institute of Nuclear Physics, University of Moscow, Moscow (for Grigorov, Tretyakova, Shestopierov). 2. Armenian Academy of Sciences, Institute of Nuclear Physics, Erevan (for Babayan and Bayadsyn). 3. Institute of Nuclear Research, Laboratory of High Energy Physics, Krakow, Polish Academy of Sciences (for Babecki, Loskiewicz, Massalski, Oles).

LOSKIEWICZ, J.; MASSALSKI, J.; NIZIOL, B.: OLES, A.;

Analysis of the integral spectrum of ionization pulses caused by nuclear active particles at mountain altitudes. Acta physica Pol 23 no.1:77-92 Ja '63.

1. Institute of Nuclear Research, Laboratory of High Energy Physics, Krakow, and II Department of Physics, Academy of Mining and Metallurgy, Krakow.

LOSKIN, L.

TECHNOLOGY

Periodical: REVISTA INDUSTRIEI ALIMENTARE. PRODUSE VEGETALE. No. 4, 1958.

LOSKIN, L.; BERSADSKI, G. A VAM-4 vacuum machine for sealing cans. p. 22.

Monthly List of East European Accession (EEAI) LC, Vol. 8, no. 3
March 1959 Unclass.

LOS'KO-MOSINA, N. K.

USSR/Pharmacology. Toxicology. Cardio-Vascular Drugs V-5

Abs Jour : Ref Zhur-Biol., No 6, 1958, 28101.

Author : Los'ko-Mosina N. K., Kozenko L. T.

Inst : Dnepropetrovsk Medical Institute.

Title : Therapy of Hypertonia with Dibasol.

Orig Pub : Sb. nauchn. rabot. Dnepropetr. med in-ta, 1956, 209-211.

Abstract : No abstract.

Card 1/1

LOSKOT, Frantisek, inz.

Simple device for screwhead slotting. Stroj vyr 11 no.8:412 Ag '63.

1. Tesla Pardubice, n.p., Pardubice.

LOSKOT, M.

One dipped the pen into ink and wrote, p. 320, ZELEZNICE (Ministerstvo dopravy) Praha, Vol. 4, No. 12, Dec. 1954

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 4, No. 12, December 1955

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Effect of temperature on the toxicity of insecticides to larvae of Aedes aegypti L. Dop. AN URSR no.3:401-404 '64.
(MIRA 17:5)

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DONETS, Z.S.; DASHKINA, N.G.; LOSKOT, V.M.; FRANTSEVICH, L.I.; TSARICHKOVA, D.B.

Larval nutrition and some physiological indices of bloodsucking mosquitoes. Med. paraz. i paraz. bol. 34 no. 5:518-521 S-O '65 (MIRA 19:1)

1. Laboratoriya arakhnoentomologii Kiyevskogo universiteta. Submitted June 13, 1964.

LOSKOV, B.V.

Author: Loskov, B. V.

Title: Physico-chemical principles of oil recovery.
Fiziko-khimicheskie osnovy regeneratsii masel.
161 pp.

City: Moscow

Date: 1948

Subject: Oil reclamation

Available: Library of Congress, Call No: TP687.I67 1948

Source: Lib. of Cong. Auth. Cat., 1950

A good manual on properties, classification and applications, in addition to the technology of and processes used in oil recovery.

LOSKOV, B. V.

4

10221* A Chromatographic Method of Determining the Fractional Composition of High Polymers. Khromatograficheskii metod opredeleniia fraktsionnogo sostava vysokopolimerov. (Russian.) B. V. Loskov, N. A. Kaverina, and A. A. Fedlantseva. *Khimiia i Tekhnologiia Topliva*, 1956, no. 3, Mar. 1956, p. 51-53.

3 M.A.YOUTZ 2 copies

Discusses a method of chromatographic separation of isobutene polymers into fractions of different mol. wt. Tables, graphs. 3 ref.

LOS'KOV, D.I., inzhener.

Effect of the compactness of mold packing on sand scale formation on steel castings. Trudy Ural. politekh. inst. no.60:125-134 '56. (MLRA 9:10)

(Foundry research) (Sand, Foundry)

LOS'KOV, D.I., inzh.; KHAZAN, G.L., inzh.

Sand fusion on castings as a result of steel penetration into the mold material. Trudy Ural.politekh.inst. no.89:131-139 '59. (MIRA 12:8)

(Founding)

RAZUMOV, Valer'yan Nikitich; RYZHIKOV, A.A., prof., doktor tekhn.nauk, retsenzent; LOS'KOV, D.I., inzh., red.; MARCHENKOV, I.A., tekhn.red.

[Foundry laboratory in the plant] Liteinaia laboratoriia na zavode. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 138 p. (MIRA 13:11)
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PORUCHIKOV, Yuriy Pavlovich; KHAZIN, Genrikh Leonidovich; VOLPYANSKIY, L.M., inzh., retsenzent; LOS'KOV, D.I., dots., red.; DUGINA, N.A., tekhn. red.

[Automatic control of the preparation and distribuion of molding mixtures] Avtomatizatsiia prigotovleniia i razdachi formovochnoi smesi. Moskva, Mashgiz. 1962. 175 p. (MIRA 15:4)
(Molding (Founding)) (Automatic control)

SERGEICHEV, Nikolay Fedorovich; TALANOV, P.I., prof., retsenzent; KOCHUROV, A.S., inzh., retsenzent; LOS'KOV, D.I., dotsent, red.; ZHIDKIKH, I.A., inzh., red.; BORISOV, A.P., inzh., red.; BLANK, E.M., inzh., red.; BOGOSLAVETS, N.P., tekhn. red.

[Manufacture of models] Model'noe proizvodstvo. Moskva, Mashgiz, 1962. 158 p. (MIRA 15:6)
(Models and modelmaking)

LOSKUTKOV, G.

Model of a coal mine cross section. Prof.-tekh.obr. 20 no.2:23 F '63. (MIRA 16:2)
(Hydraulic mining--Models)

LOSKUTNIKOV4V8A8 600

1. LOSKUTNIKOV, V. A.; Inzh.

2. USSR (600)

4. Sewage

7. Building an underground tunnel for the main sewage pipe under heavy soil conditions. Build. stroi. tekh. 9, no. 8, 1952. Tsentrospetsstroy MNP

9. Monthly List of Russian Accessions, Library of Congress, August, 1952. UNCLASSIFIED.

LOSKUTNIKOV, V.A.

Method of forming multistep dumps in mountainous regions.
Gor.zhur. no.8:72 Ag '62. (MIRA 15:8)
(Strip mining)

LOSKUTNIKOV, V.A., gornyy inzh; RUSYAYEV, L.F., gornyy inzh.; MEN'SHIKOV, B.A., gornyy inzh.

Mine tape measure for measuring the depth of down blastholes. Gor. zhur. no.6, 56-57 Je '65. (MIRA 18:7)

1. Nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut gornogo i obogatitel'nogo mashinostroyeniya.

TSAREGORODTSEV, P.P.; GARASIMOV, Ya.P., master; BORMASHENKO, R.I.; LOSKUTNIKOV, V.D., stalevar; KUZNETSOV, V.G., stalevar; SAFRONOV, V.F., stalevar; SUVOROV, K.R., stalevar

"Steelmaker's manual" by M.I. Panfilov. Reviewed by P.P. TSaregorodtsev and others. Metallurg 7 no.5:39 My '62. (MIRA 15:5)

1. Petrovsk-Zabaykal'skiy metallurgicheskiy zavod.
2. Nachal'nik martenovskogo tsekha Petrovsk-Zabaykal'skogo metallurgicheskogo zavoda (for TSaregorodtsev).
(Open-hearth process--Handbooks, manuals, etc.)
(Panfilov, M.I.)

L 29939-66 EWP(j)/EWT(m)/T/EWP(v) IJP(c) RM/WW

ACC NR: AR6008642 SOURCE CODE: UR/0081/65/000/017/S086/S088

AUTHOR: Karlinskiy, L. Ye.; Chayskiy, V.Ya.; Buchkina, Z. A.; Yudin, V. I.; Tartakovskaya, R. S.; Loskutnikova, T. G.

TITLE: Research on the possibility of using resin obtained from certain products of crude benzene processing in rubber mixtures

SOURCE: Ref. zh. Khimiya, Abs. 17S534

REF SOURCE: Sb. Khim. produkty koksovaniya ugley Vost. SSSR. Vyp. 2. Sverdlovsk, 1964, 30-42

TOPIC TAGS: benzene, resin, petroleum residue, plastisizer, copolymer, pyrolysis

ABSTRACT: Dark coumarone resins (DCR), obtained from cube residue after rectification and cube residue of pyrolysis residue, their copolymers, liquid polymers (LP) and formolites from solvent petroleum can be used as rubber ingredients. The (LP) and (DCR) from cube residues of crude benzene rectification have the highest plasticizing properties. The (LP)'s behavior in mixtures is not inferior to that of dibutylphtalate, except for its frostresistance. The (DCR)'s increase

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L 29939-66
ACC NR: AR6008642

significantly the adhesion and strength characteristics of rubbers of all types. According to author's conclusion.

SUB CODE: 11,07/ SUBM DATE: none

Card 2/2 CC

SINITSYN, A.F.; LOSKUTOV, A.I., inzh.; CHICHILANOV, M.T., slesar'

Measure for eliminating the melting of contacts of a quick-break switch on electric locomotives. Elek. i tepl. tiaga no.1:18 Ja '61. (MIRA 14:3)

1. Master apparatnogo tsekha depo Zlatoust (for Sinitsyn).
(Electric locomotives—Electric equipment) (Electric switchgear)

LOSKUTOV, A. I.
Tomsk State U imeni V. V. Kuybyshev

LOSKUTOV, A. I.- "The effect of lubricants on the process of friction and deformation of metals." Tomsk State U imeni V. V. Kuybyshev. Tomsk, 1956.
(Dissertation for the Degree of Candidate of Physicomathematical Science)

SO: Knizhnaya Letopis' No. 13, 1956.

LOSKUTOV, A I.

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Crystalline Compounds E-9

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6808

Author : Kuznetsov, V.D., Loskutov, A.I,
Inst : Siberian Physical-Technical Institute, USSR
Title : Concerning the Problem of the Effect of Lubricating Media on the Process of Penetration of a Sharpened Indentor into a Plastic Metal.

Orig Pub : Fiz. metallov i metallovedeniye, 1956, 2, No 3, 509-513

Abstract : The effect of lubricants on the process of measuring the microhardness on the different loads was investigated with commercially pure iron, copper, and zinc. The measurements were carried out dry and with vaseline (inactive media), and also in 0.2% solutions of olein and stearine acids in vaseline oil (active media). The loading range was from 20 grams to 4 kg. According to the measurement results, curves of the "depth of indentor penetration vs. load" were plotted for each medium. It was established that the curves without lubricant and with vaseline-oil lubricants are identical.

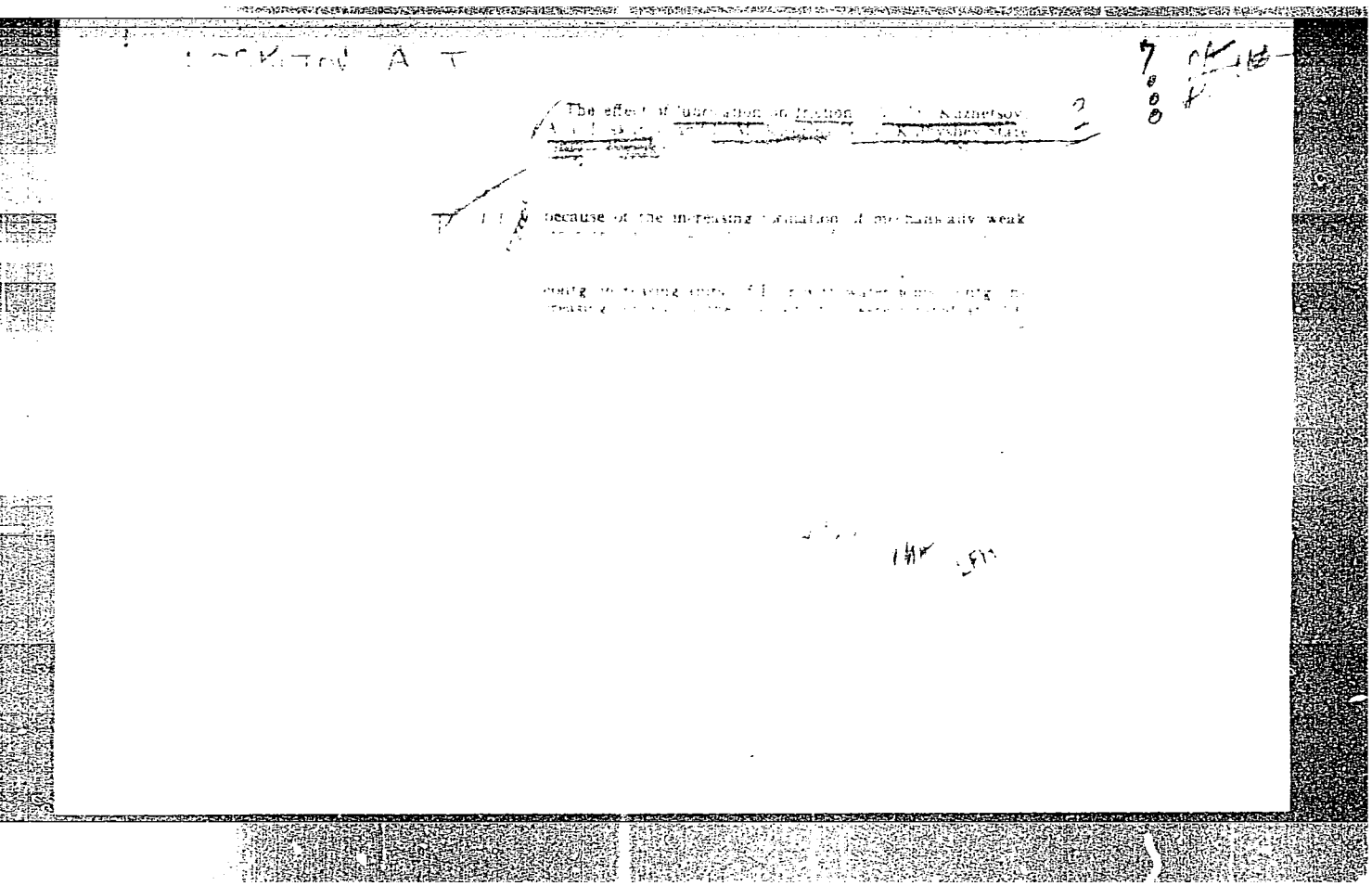
Card : 1/2

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Crystalline Compounds E-9

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6808

When solutions of surface-active substances are used as lubricants, the curves merged up to certain loads (different for different metals) with the curves obtained without lubricant, but diverged at large loads. The load required to start a noticeable divergence of the curve increases with the initial hardness of the metal.

Card : 2/2



SOV/137-58-8-18033

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 261 (USSR)

AUTHORS: Kuznetsov, V. D., Loskutov, A. I., Kogan, Yu. I.

TITLE: Effect of Lubrication on the Process of Scratching of Metals (Vliyaniye smazok na protsess tsarapaniya metallov)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Fizika, 1957, Nr 1, pp 32-35

ABSTRACT: The hardness of Cd, Al, Zn, and brass was measured by the method of scratching by a cone of ShKh15 steel having a 90° apex angle and a 15 μ radius of tip curvature in the dry state, in refined transformer oil (inactive medium), and in a 0.2% solution of oleic acid in transformer oil (active medium). It was established that the presence of any lubrication leads to a decrease in hardness, which indicates the prevailing lubricating action of media in the process of scratching.

1. Metals—Mechanical properties 2. Metals—Test methods 3. Lubrication—Metallurgical effects

M. G.

Card 1/1

18(6)

AUTHORS: Kuznetsov, V. D., Academician, Loskutov, A. I., Pavlova, S. N.

SOV/20-123-2-17/50

TITLE: The Problem of the Cold Hardening of Metals When Cutting With a Lubricant (K voprosu o naklepe metallov pri rezanii so smazkoy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 272-274 (USSR)

ABSTRACT: First, a short report is given on some earlier papers dealing with this subject. The present paper seeks a final solution of this problem. As described by a previous paper by N. A. Pleteneva et al. (Ref 9), cold hardening was investigated by measuring microhardness on the plane bottom of the cavities drilled out by means of a special drill from R 18 steel and by using various lubricants. Investigations were carried out in brass, copper, aluminum, zinc, and cadmium with solutions of stearic acid in paraffin oil and of sodium oleate in distilled water, the drill performing 450 revolutions per minute. In the case of brass, copper, and aluminum, also solutions of oleic acid and stearic acid in purified mineral oil and toluene were used. In the latter case the drill

performed 8 revolutions per minute. Microhardness was measured by means of the device PMT-3. The results obtained by the experiments are given by 4 tables. Table 1 contains the microhardness values of surfaces after drilling in solutions of stearic acid in paraffin oil with a velocity of 450 revolutions per minute. Each value given in this table is an average value obtained from 20 to 40 measurements. In the case of brass, copper, and aluminum a very weak tendency towards an increase of microhardness with increasing concentration of the stearic acid is observed. In the case of drilling in solutions of sodium oleate in distilled water, the influence exercised by surface-active substances upon the strengthening of metals was even less. In this case, a very weak tendency towards a decrease of microhardness was found in aluminum. In the aforementioned cases the presence of surface-active substances in the lubricant has thus practically no influence upon the strengthening of metals. Similar results were obtained also when drilling was carried out with a speed of 8 revolutions per minute. In the case of the drilling of brass, copper, and aluminum in solutions of oleic acid and stearic acid in purified mineral

oil, the strength of the bottom of the cavities was the same in all concentrations. However, when the same materials were drilled with solutions of oleic acid and stearic acid in toluene, a weak tendency towards an increase of microhardness with an increase of the content of surface-active substances was observed in a non-active solvent. Only in the case of drilling aluminum with the use of solutions of sodium oleate in distilled water, was a decease of strength observed, but to an extent of not more than 7 %. The results obtained by the experiments discussed in this paper agree well with the conclusions drawn by S. Ya. Veyler (Ref 10). There are 4 tables and 10 references, 9 of which are Soviet.

SUBMITTED: July 17, 1958

18(4) SOV/20-126-1-18/62

AUTHORS: Kuznetsov, V. D., Academician, Loskutov, A. I.

TITLE: Effect of a Preliminary Deformation on the Plasticity of Aluminum (Vliyaniye predvaritel'noy deformatsii na plastichnost' alyuminiya)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 1, pp 70-73 (USSR)

ABSTRACT: At first, the authors report on some previous papers on this subject by Kishkin, Zhurkov, Pavlov, Vshivtseva, Mirkin, Trunin et al. The object of the present paper is the solution of the problem of reversibility of structural defects occurring in a preliminary deformation by stretching. The authors investigated the influence of a preliminary deformation with subsequent annealing on the total relative stretching δ and on the limit of strength σ_B in fracture. The influence of

a) the temperature of the preliminary deformation, and b) of the degree of preliminary deformation at a constant temperature on the above-mentioned mechanical properties was investigated. The preliminary and the final deformation was carried out by

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stretching (3.5 mm/sec) by means of the machine RMP-500. Copper of the M-1 brand, and aluminum of the A-1 brand, served as test objects. In the investigation of the influence of temperature on the characteristics of plasticity and strength of the material, the samples were stretched until about the same degree of deformation at different temperatures: for copper at 20 and 250°, for aluminum at 20, 100, 150, 275 and 330°. In the investigation of the influence of the degree of preliminary deformation, the aluminum samples were stretched at a constant, increased temperature (330°) and at uniform deformation until reaching different degrees of deformation: 6, 10, 14, 18, 20 and 25 %. After the preliminary deformation, the samples were annealed in a nonoxidizing medium (copper at 500° and aluminum at 400°). The results of the first series of experiments are indicated in a table. A preliminary stretching at different temperatures causes, in the material, certain changes which are not eliminated by annealing, and reduce the plasticity. In aluminum, this phenomenon is observed at all temperatures of the preceding test, also at room temperature. In copper, however, the plasticity is only reduced after a preliminary deformation at 250° at least. The influence of

Effect of a Preliminary Deformation on the Plasticity of Aluminum

SOV/20-126-1-18/62

the degree of preliminary deformation at a constant temperature was investigated in aluminum. The results of these series of experiments for 330° and 100° are compiled in 2 tables. In both cases, the total relative elongation in fracture decreases very much in a linear way at an increase of the degree of preliminary deformation. There are 1 figure, 2 tables, and 12 references, 11 of which are Soviet.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy nauchno-issledovatel'skiy institut pri Tomskom gosudarstvennom universitete im. V. V. Kuybysheva)(Siberian Physico-technical Scientific Research Institute at the Tomsk State University imeni V. V. Kuybyshev)

SUBMITTED: February 16, 1959

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LOSKUTOV, A.L.

PHASE I BOOK EXPLOITATION SOV/4502

Akademiya nauk SSSR. Nauchnyy sovet po probleme sharoprochnykh splavov

Issledovaniya po sharoprochnym splavam, tom 6 (Investigations of Heat-Resistant Alloys, Vol. 6) Moscow, 1960. 319 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova. Nauchnyy sovet po probleme sharoprochnykh splavov.

Editorial Board: I. P. Bardin (Deceased) Academician, G. V. Kurdyumov, N. V. Ageyev, Corresponding Member, Academy of Sciences USSR (Resp. Ed.), I. A. Oding, I. M. Pavlov, and I. F. Zudin, Candidate of Technical Sciences; Ed. of Publishing House: V. A. Klimov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE: This book is intended for research workers in the field of physics of metals and for metallurgists, particularly those working on heat-resistant alloys.

COVERAGE: This collection of 45 articles deals with various problems in the production of heat-resistant alloys. Special attention is paid to the mechanisms of deformation of such metals as aluminum, copper, iron, and nickel. Various defects and failures of metals are analyzed, and means for increasing the heat resistance and plasticity are described. Among the special problems discussed are: electrolytic conductivity of iron-aluminum alloys in the solid state; the mobility of atoms in nickel-iron alloys, depending upon defects of their crystalline structure; the kinetics of change in isolated pores; the irreversible thermal transformation of solid bodies, etc. No personalities are mentioned. References follow each article.

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KUZNETSOV, V.D.; LOSKUTOV, A.I.; GOLOZUBTSEVA, A.N.

Effect of cyclic thermal processing on the mechanical properties of aluminum. Izv.vys.ucheb.zav.;fiz. no.2:57-63 '60.
(MIRA 13:8)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete im. V.V. Kuybysheva.
(Aluminum)

S/139/61/000/004/017/023
E021/E480

AUTHORS: Loskutov, A.I., Kuznetsov, V.D., Zhukova, V.M.

TITLE: The influence of thermal cycling on the microstructure of cadmium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniye. Fizika, no.4, 1961, 134-139 + 4 plates

TEXT: Investigations were carried out on commercially pure cadmium. Samples of 70 mm length and cross sections of 10 x 5, 10 x 2 and 10 x 1 mm were rolled. Specimens were electropolished in a 50% aqueous solution of orthophosphoric acid. A 1 mm diameter region was marked on the specimens using a diamond. The changes in relief of the surface were studied in this region during thermal cycling. Samples were held for 1 minute at 10°C and for 3 minutes at 185°C. Changes were followed on a horizontal metallographic microscope and on an interference microscope. Microphotographs were taken. Thermal cycling developed a relief at the grain boundaries. Grain boundaries, invisible at first, appeared after only 2 cycles and those boundaries which were initially visible became more marked. This indicates displacement of grains relative to one another. Slip lines were also present in the

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grains after only 2 cycles. With an increasing number of cycles, the grain boundaries became much sharper and the number of slip lines increased and they became more marked. The difference between the levels of several grains was measured after various times. In one case, after 20 cycles the displacement was 10 microns and, after 35 cycles, 12 microns. It was also shown that after 20 cycles many fine grains appeared in addition to the original grains. The breaking-up of the grains was complete after about 300 cycles. The newly formed grains were associated in groups and the boundaries of the groups corresponded to the boundaries of the original grains. The fact that the original grain boundaries were more strongly marked than the new grain boundaries might be explained by higher thermal stresses in those regions. Macro changes were also observed. The length of samples increased with the number of cycles; after 400 cycles, the length of 1 mm thick samples increased by about 2.5%, that of the 2 mm ones by about 1.2% whilst the 5 mm thick sample remained essentially unchanged. There are 19 figures and 7 references: 2 Soviet and 5 non-Soviet. The four most recent references to English language publications read as follows.

Ref.2: L.Lloyd and R.Mayfield. Trans of ASM, v.50, 954, 1958;
Ref.3: W. Boas, R. Honeycombe. Proc. Roy. Soc., A186, No.1004,57-71, 1946; Ref.5: W. Boas, R. Honeycombe. Proc. Roy. Soc., A188, No.1015, 28, 1947; Ref.6: W. Boas, R. Honeycombe. Journ. Inst. Met., 73, No.7, 433, 1946-1947.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V.Kuybysheva
(Siberian Physicotechnical Institute at Tomsk State University imeni V.V.Kuybyshev)

SUBMITTED: May 15, 1961

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18.8200 2408

S/139/61/000/004/020/025
E073/E535

AUTHORS: Loskutov, A.I., Kuznetsov, V.D. and Semion, L.A.

TITLE: Influence of the parameters of cyclic heat treatment on the irreversible changes in the dimensions of aluminium specimens

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, no. 4, 1961, 154-156

TEXT: Cyclic heat-treatment changes the shape and dimensions of the specimens. The changes in the dimensions depend on a number of factors, nature of the material, its structure and properties, the chemical composition, the character of the preliminary heat treatment, the shape and dimensions of the specimens and the parameters of the cyclic heat-treatment. Some authors have found that materials with body-centred cubic lattices tend to assume after cyclic heat-treatment, a spherical shape, whilst materials with a face-centred cubic lattice or with anisotropic properties tend to change their shape in such a way that the maximum dimensions increase and the minimum dimensions decrease. However, metals appear to have a more complicated behaviour pattern. The shape and

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Influence of the parameters of

dimensions of the specimens may have a great importance since they affect the magnitude and the distribution of the stresses during the thermal cycling. The dependence of the changes in the specimen dimensions on the geometrical parameters was observed on β-brass and on Armco iron. Under equal conditions, no change in the direction of "growth" was observed for aluminium. It would appear that materials with a cubic face-centred lattice can change their dimensions only in the direction of the maximum dimension. Available data indicate that under appropriate thermal cycling conditions it is possible to obtain a decrease of the maximum dimensions of a specimen instead of an increase. Since the available experimental data are inadequate to permit any definite conclusions, very little attention has been paid to this fact. It could be assumed that the direction of growth is determined by the thermal cycling parameters and particularly by the combination of the speeds of heating and cooling. The present investigations were carried out to clarify this problem. Specimens of circular cross-section, which are generally used for tensile tests, were used in the investigations. The diameter of the 39 mm gauge length equalled 6.3 mm. The specimens were subjected to cyclic heat-treatment in which the

Influence of the parameters of

maximum and minimum temperatures of the cycle were 500°C and 20°C during the experiments the speed of heating and cooling was varied by using differing heating and cooling media, as follows
1. Heating in an electric furnace in air, cooling in running water
2. Heating under similar conditions and cooling by a jet of air at room temperature using a blower;
3. Heating in a saltpetre bath, cooling with a jet of air from a blower, and
4. Heating in a saltpetre bath, cooling in alcohol at room temperature.

In addition to measuring the dimensions, tensile tests were made to determine the strength and elongation. Fig.1 shows the relative percentual changes in the dimensions as a function of the number of thermal cycles, whilst Fig.2 shows the mechanical properties (σ_B, kg/mm^2 and Δl k/l_o,%) versus number of thermal cycles. The numbers on the curves indicate the respective heat-treatments as listed above. It can be seen from Fig.1 that the magnitude and sign of the dimensional changes during cyclic heat treatment are determined by the combination of the speeds of

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Influence of the parameters of S/139/61/000/004/020/027
E073/E535

heating and cooling. The greatest change is observed during slow heating and fast cooling, rapid heating and slow cooling has an opposite effect and thus leads to a shortening of cylindrical specimens. If in both cases the rate of heating is the same the effect will increase with decreasing cooling speed. If slow heating is combined with slow cooling, there will be no residual change in the length of the specimens. The results show that rather evidence of a drop in the maximum dimensions of aluminium specimens is not accidental. It was found that for materials with both cubic face-centred as well as body-centred crystal lattices the sign of the change in the dimensions is determined by the conditions of carrying out the cyclic heat-treatment. Residual changes in the dimensions are explained by stress relaxation produced during heating and cooling. If the conditions of heating and cooling are changed, the temperature distribution, the thermal stresses and the strength properties along the cross-section change. Any thermal cycling will lead to elastic-plastic deformations unless the temperature range is very narrow. Hence there will be residual changes in the dimensions of the specimen.

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The data plotted in Fig.2 indicate the presence of plastic deformation, since the strength increases and the plasticity decreases. As already noted, the magnitude and direction of the change in dimensions depend on the dimensions of the specimen and the parameters of the thermal cycling. Furthermore, this characteristic is exhibited not only by materials with cubibic body-centred lattices but also by materials with face-centred lattices, such as aluminium, the causes being the same in both cases. There are 2 figures and 9 references: all Soviet.

[Abstractor's Note: Abridged translation.]

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom universitete imeni V. V. Kuybysheva (Siberian Physico-Technical Institute, Tomsk State University imeni V. V. Kuybyshev)

SUBMITTED: April 4, 1961

S/139/62/000/001/005/032
E026/E435

AUTHORS: Kuznetsov, V.D., Loskutov, A.I., Zhukova, V.M.

TITLE: The effect of thermal cycling on the microstructure of Cd. II

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika. no.1, 1962, 36-40 + 4 plates

TEXT: The effects of plastic deformation, set up by thermal cycling over the range -196 to +8°C, on the microstructure of Cd are studied. Cross-slip is observed after only one cycle; slip taking place in two and, with further cycling, three directions, usually at 60 to 70° to each other. Further deformation up to 50 cycles shows that one of the slip systems tends to predominate over the others. Twinning is also observed, the width of the twins increasing as the deformation increases. Sub-grain formation takes place within the original grains, the disorientation being shown up by microinterferometric studies. Micro-relief effects are also observed when complex slip systems operate in two adjacent grains. This behaviour is different from that in the temperature range 10 to 185°C, since

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the material is below the recrystallization temperature and grain-boundary migration is practically absent. In the upper temperature range only one slip system apparently operates and very little twinning is observed, indicating that the strain resulting from thermal cycling in this temperature range must be considerably less than that from cycling in the low-temperature range, due to the recrystallization taking place.
There are 15 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V.Kuybysheva
(Siberian Physicotechnical Institute at Tomsk State University imeni V.V.Kuybyshev)

SUBMITTED: June 3, 1961

LOSKUTOV, A.I.; KUZNETSOV, V.D.; ZHUKOVA, V.M.

Effect of cyclic heat treatment on the microstructure of cadmium. Part 1. Izv.vys.ucheb.zav.; fiz. no.4:134-139 '61. (MIRA 14:10)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitet imeni V.V.Kuybysheva.
(Metals--Heat treatment) (Cadmium)

LOSKUTOV, A.I.; KUZNETSOV, V.D.; SEMION, L.A.

Effect of the parameters of cyclic heat treatment on the irreversible dimensional change of aluminum specimens. Izv.vys. ucheb.zav.; fiz. no.4:154-156 '61. (MIRA 14:10)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete imeni V.V.Kuybysheva.
(Metals---Heat treatment) (Aluminum)

S/139/62/000/005/002/015
E073/E535

AUTHORS: Kuznetsov V.D., Loskutov, A.I. and Surnacheva, A.I.

TITLE: Influence of cyclic heat treatment on some physico-mechanical properties of zinc

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, no.5, 1962, 23-25

TEXT: Earlier cyclic heat treatment experiments (heating in molten saltpetre, quenching in water) have shown that an increase in the maximum temperature and in the duration of holding at that temperature lower the mechanical properties of the zinc and increase its electric resistivity. This was attributed to crack formation and was confirmed by special microstructural investigations. Since the corrosive effect of the heating and cooling liquids might have been a contributing factor in the (intercrystalline) crack formation, the following thermal cycling experiments were carried out: 1.4 mm diameter, 10 mm long wire specimens were heated to 250°C in a glass test-tube, which was submerged in saltpetre for seven minutes and, following that, the specimens were cooled in air for seven minutes. The following

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characteristics of the material were taken as criteria of the properties: the true stress after stretching by 4.5%, the total elongation during fracture, the relative change of the electric resistance. Results: The electric resistivity increased monotonously with the number of cyclic heat treatments, whereby the increase after 800 cycles was 16%. Although the strength and plasticity showed a monotonous decrease with increasing number of cycles, in contrast to thermal cycling in liquid media where the specimens showed spontaneous failure after 250 cycles, the plasticity and strength remained relatively high even after 800 cycles. It is concluded, therefore, that the increase in the electric resistance and the deterioration in the mechanical properties of zinc specimens after thermal cycling are due to the combination of the corrosive effect of the media and thermal type I and II stresses. There are 2 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V. V. Kuybysheva (Siberian Physico-Technical Institute of the Tomsk State University imeni V. V. Kuybyshev)

SUBMITTED: July 1, 1961

KUZNETSOV, V.D.; LOSKUTOV, A.I.; ZHUKOVA, V.M.

Influence of cyclic heat treatment on the microstructure of cadmium. Part 2. Izv.vys.ucheb.zav.;fiz. no.1:36-40 '62.
(MIRA 15:6)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuarstvennom universitete imeni Kuybysheva.
(Cadmium)
(Metals--Heat treatment)

KUZNETSOV, V.D.; LOSKUTOV, A.I.; SURNACHEVA, A.I.

Effect of cyclic thermal treatment on certain physical and mechanical properties of zinc. Izv. vys. ucheb. zav.; fiz. no.5:23-25 '62. (MIRA 15:12)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete imeni V.V. Kuybysheva.
(Zinc--Metallurgy)

LOSKUTOV, A. M., Lect.
Omsk Veterinary Institute
"Use of garlic in veterinary practice."
SO: Veterinariia 27(3), 1950, p. 53

LOSKUTOV, A. M., Lect.
Omsk Veterinary Inst.
"Nettle rash of cattle."
SO: Vet. 28 (1), 1951, p. 46

USSR / Diseases of Farm Animals. General Problems R-1

Abs Jour : Ref Zhur - Biol., No 17, 1958, No 78884

Author : Loskutov, A.M.
Inst : Omsk Veterinary Institute
Title : Garlic Preparations, in Veterinary Practice.

Orig Pub : Tr. Omskogo vet. in-ta, 1957, 15, 217-235

Abstract : No abstract.

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LOSKUTOV, A.M., prof.

"Laboratory investigations in veterinary clinical diagnosis", edited by P.S. Ionov. Reviewed by A.M. Loskutov. Veterinariia 36 no.11:88-90 N '59 (MIRA 13:3)

1. Omskiy veterinarnyy institut.
(Veterinary medicine) (Ionov, P.S.)

LOSKUTOV, A.M., prof.; BERKOVICH, V.I., aspirant

Observing prolonged feeding of urea and ammonia water.
Veterinariia 41 no.10:46-48 O '64.
(MIRA 18:11)

1. Omskiy veterinarnyy institut.